

REMARKS**Summary of the Office Action**

In the Office Action claims 1, 3-9, 11, and 13-16 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to comply with the written description requirement. Claims 1 and 3-8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 3-5, 8-9, 11, 13, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,654,057 to *Kitayama, et al.* (“*Kitayama*”) in view of U.S. Patent No. 5,637,353 to *Kimock, et al.* (“*Kimock*”). Claims 6-7, and 14-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kitayama* in view of *Kimoch* and further in view of U.S. Patent No. 5,260,157 to *Mizuta, et al.* (“*Mizuta*”).

Summary of the Response to the Office Action

Applicant amends claims 1, 3, 5-8 to correct certain informalities. Accordingly, claims 1, 3, 5-9, 11, and 13-16 are pending for further consideration.

All Claims are Allowable

Claims 1, 3-9, 11, and 13-16 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Office Action requests confirmation that the etching process described in the specification at page 3, lines 2-7 involves chemical etching. Lines 2-7 describe the chemical etching of glass substrates in a case filled

with etchant. Lines 8-11 describe a different etchant method. Thus, Applicant respectfully requests that the rejections under 35 U.S.C. § 112, first paragraph, be withdrawn.

Claims 1 and 3-8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner is thanked for the helpful suggestions for amending these claims so as to overcome any alleged indefiniteness and informalities. These suggestions have been incorporated into claims 3 and 5-8. Accordingly, it is respectfully requested that the rejections under 35 U.S.C. § 112, second paragraph, be withdrawn.

All Subject Matter Complies With 35 U.S.C. § 103(a)

Claims 1, 3-5, 8-9, 11, 13, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kitayama* in view of to *Kimock*. Applicant respectfully traverses the rejections for the following reasons.

Kitayama shows a glass substrate manufacturing method applicable to magnetic recording disk glass substrates. The specification discloses a method for flattening a glass substrate which includes forming a film of a solution on the surface of a sheet of glass using a down-drawn method. The specification also discloses a method for chemically strengthening a glass substrate wherein a glass substrate is immersed in a chemical reinforcement solution, heated, ions between the solution and the surface of the glass substrate are exchanged, the glass substrate is removed from the reinforcement solution and annealed to a temperature higher than the crystallization temperature of a molten salt, and finally the substrate is cleaned with a cleaning agent containing acid. See *Kitayama* at col. 5, lines 12-22 and 39-50.

Kimock shows a substantially optical transparent substrate with one or more chemically vapor deposited interlayers bonded to the substrate and a chemically vapor deposited outer layer made of optically transparent hard and low friction material bonded to the interlayer and away from the substrate. See the Abstract of *Kimock*.

In order to establish a *prima facie* case of obviousness, the Office must satisfy three requirements. M.P.E.P. § 2142. First, “the prior art reference, or references when combined, must teach or suggest *all* the claim limitations.” (emphasis added). Second, the Office must show that there is “some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” And third, “there must be a reasonable expectation of success.” *Id.*

First, neither *Kitayama* nor *Kimock* teach or suggest, whether alone or in combination, at least the “transparent protective layer formed on an outer surface of at least one of the first substrate and the second substrate, wherein the protective layer has a configuration which imparts a compressive stress to the outer surface of at least one of the first substrate and second substrate” features recited in independent claims 1 and 9. These features are simply absent from both references.

The Office Action alleges that there is a bond “between the glass substrate (parent substrate) and the inorganic diamond like carbon layer (column 10, lines 60-65),” in *Kimock*. However, *Kimock* makes clear that ion bombardment of the surface of the parent substrate allows for the at least one interlayer to be bonded to the parent substrate for a subsequent diamond like carbon (DLC) layer to be successfully bonded on top of the interlayer(s). See *Kimock* col. 3,

lines 28-40. In other words, an interlayer is always found between the parent substrate and the DLC layer. See Figs. 1-3 of *Kimock*. In fact, *Kimock* states that “the obvious and common approach to coating glass substrate is to apply the DLC coating directly onto a clean glass surface.” See col. 1, lines 48-55 of *Kimock*. But *Kimock* states that this approach resulted in poor adhesion because the DLC layer is often under significant compressive stress.

The Office Action further alleges that “the [protective] coating is under significant compressive stress (column 1, lines 50-55). Thus the coating imparts a compressive stress to the outer surface of the glass substrate.” However, *Kimock* teaches only that the DLC layer is under compressive stress i.e., it often receives compressive stress from outside forces, not that the DLC layer imparts a compressive stress to the outer surface of the parent substrate. See *Kimock* col. 1, lines 50-55.

Kitayama teaches only that a glass substrate is chemically changed to create compressive stress in its outer layer. *Kitayama* does not teach that an outside protective layer imparts a compressive stress to the glass substrate. See *Kitayama* at column 22, lines 53 through column 23, line 26, and column 6, lines 60-65.

As demonstrated above, Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness at least because neither *Kitayama* nor *Kimock*, either alone or in combination, teaches or suggests all the recited features of independent claims 1 and 9. Applicant respectfully submits that dependent claims 3, 5-8, 11, 13, and 16 are also allowable insofar as they recite the patentable combinations of features recited in claims 1 and 9, as well as reciting additional features that further distinguish them over the applied prior art.

Therefore, it is respectfully submitted that the Office Action has not met the first prong of *prima facie* obviousness.

Second, the suggestion or motivation to combine is not provided by either the references themselves or by knowledge generally available to one of ordinary skill in the art. As previously mentioned, if the outer layer of the glass substrate in *Kitayama*, which is chemically changed to create compressive stress in its outer layer, were replaced with the DLC layer of *Kimock*, the DLC layer would not impart a compressive stress on the surface of the glass substrate. This is because the DLC layer is not in tension and therefore cannot impart compressive stress to the outside surface of a glass substrate.

Therefore, it is respectfully submitted that the statement in the Office Action is not sufficient by itself to meet the second prong of *prima facie* obviousness. In fact, the MPEP § 2143.01 states that “the level of skill in the art cannot be relied upon to provide the suggestion to combine references.” *Al-Site Corp. v. VSI Int’l, Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d 1161 (Fed. Cir. 1999).

Third, “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).” See MPEP § 2143.01. The Office Action does not provide any citation to the references of record that shows the desirability of combining *Kitayama* and *Kimock*. The mere assertion that *Kitayama* and *Kimock* could be combined is not sufficient by itself to establish *prima facie* obviousness. Therefore, it is respectfully submitted that the Office Action has not met the third prong of *prima facie* obviousness.

Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. § 103(a) should be withdrawn because neither *Kitayama* nor *Kimock* teach or suggest, whether alone or in combination, all three prongs of *prima facie* obviousness.

Claims 6-7, and 14-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kitayama* in view of *Kimoch* and further in view of *Mizuta*. These rejections are respectfully traversed in view of the following comments.

Applicant respectfully submits that *Mizuta* does not makeup for the deficiencies of both *Kitayama* and *Kimoch*. *Mizuta* is cited only to show a thermosetting silicone resin that allegedly has a low viscosity such as tetra-alkoxysilane. These features do not make up for the deficiencies above-mentioned. Therefore, claims 6-7 and 14-15 which depend from independent claims 1 and 9, respectively, and are allowable for the same reasons set forth with respect to the independent claims from which they depend and for the separate features they recite.

CONCLUSION

In view of the foregoing, Applicant respectfully requests reconsideration and the timely allowance of the pending claims. Should the Examiner feel that there are any issues outstanding after consideration of the response, the Examiner is invited to contact the Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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